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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/743,826	02/27/2001	Ronald Peter W. Kesselmanns	294-96 PCT/U	8612

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EXAMINER
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WHITE, EVERETT NMN

ART UNIT	PAPER NUMBER
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1623

DATE MAILED: 01/13/2003

10

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/743,826

Applicant(s)

KESSELMANS ET AL.

Examiner

EVERETT WHITE

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 01 October 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 15-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 15-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- |                                                                                              |                                                                             |
|----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                             | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____                                    |

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### DETAILED ACTION

1. The amendment filed October 1, 2002 has been received, entered and carefully considered. The amendment affects the instant application accordingly:
  - (A) A new abstract has been provided. The abstract is proper.
  - (B) Claims 1-8 and 10-14 have been canceled. Claim 9 was previously canceled.
  - (C) New Claims 15-31 have been added.
  - (D) Comments regarding Art Rejection have been provided drawn to
    - (a) 102(b) rejections, which has been maintained.
    - (b) 102(e) rejection, which has been maintained.
    - (c) 103(a) rejection, which has been maintained.
    - (d) 112, 2<sup>nd</sup> para. rejection, which has been withdrawn.
2. Claims 15-31 are pending in the case.
3. The text of those sections of title 35, U. S. Code not included in this action can be found in a prior Office action.

### ***Claim Rejections - 35 USC § 103***

4. Claims 15-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wikstrom (WO 97/04167) in view of Whitaker et al (GB 1,425,822) or Just et al (US Patent No. 4,841,040).

Applicants amended the instantly claimed process for oxidation of starch to disclose a root or tuber starch comprising at least 95 wt.% amylopectin, based on dry substance of the starch, is treated with alkali metal hypochlorite at a pH between 6.5 and 8.5, to form a oxidized starch product; and a subsequent step of subjecting the oxidized starch product to an alkaline treatment in order to keep the oxidized starch product at a pH higher than 10, at a temperature of 20-50°C for at least 15 minutes.

Examples 1 and 2 of the Wikstrom WO patent disclose processes for producing an oxidized amylopectin starch that comprises treating a potato starch with sodium hypochlorite and sodium hydroxide, using substantially reaction conditions and a procedure that is similar to the process of the instant claims. See the sentence at lines 13-15 on page 2 of the Wikstrom WO patent, which discloses that the amylopectin content of amylopectin-type starch is in excess of 95%, preferable in excess of 98%,

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which embraces the root or tuber starch comprising at least 95 wt.% of amylopectin as recited in the instant claims. The analysis of the product disclosed in Examples 1 and 2 of the Wikstrom WO patent shows that the pH of the slurry, which contains the sodium hypochlorite, has a pH of 8.0 (see page 3, line 31 and page 5, line 5), which is within the pH range of 6.5 to 8.5 set forth in step (i) of the instantly claimed invention. Subsequent to adding sodium hypochlorite, Wikstrom discloses adding sodium hydroxide to maintained the pH value of the reaction, just as set forth in step (ii) of the instant claims. However, the instantly claimed invention differs from the Wikstrom WO patent by disclosing that the alkaline treatment (e.g., with sodium hydroxide) is performed at a pH higher than 10 for at least 15 minutes at a temperature of 20-50°C. The Wikstrom WO patent does not disclose a specific pH, temperature and time for this step.

The Whitaker et al GB patent, which also discloses a process for the oxidation of starch, indicates that the reaction may be promoted by heat and tends to be improved if the reaction mixture is alkaline, preferably at a pH from 8 to 14 (see page 1, 1<sup>st</sup> column, lines 40-43), which covers the pH values higher than 10 as set forth in instant Claims 15 and 18. The Just et al patent also suggests that the instantly claimed process is not novel by disclosing in Example 1 thereof a preparation of oxidized starch and indicating at column 7, lines 28-32 that after the sodium hypochlorite addition (at a pH from about 6.5 to 11.0) was completed, the pH was maintained by incremental sodium hydroxide addition and agitation at 50°C, which covers the temperature value indicated in step (ii) of instant Claim 15.

The reaction conditions with regard to the pH value, temperature and time of reaction in instant Claims 15-18 and 20 is noted. It appears that Applicants are trying to make an old process novel by changing the pH, temperature, time of reaction of the reaction conditions. Changes in temperature, concentrations, or other process conditions (including pH) of an old process do not impart patentability unless the recited ranges are critical, i.e., they produce a new and unexpected result. *In re Aller et al.* (CCPA 1955) 220 F2d 454, 105 USPQ 233. There is no indication that the oxidized starch is new and unexpected.

A person of ordinary skill in this art would combine the teachings of the Wikstrom WO patent with the teachings of the Whitaker et al GB patent and Just et al patent in a rejection of the claims since each reference disclose a common utility for an oxidized starch product. The Wikstrom and Just et al references disclose starch products that can be used in surface-sizing products and the Whitaker et al GB patent discloses starch products that can be used in cementitious compositions, which embraces the starch product as a surface-sizing agent. It would have been prima facie obvious to one of ordinary skill in the art to combine two compositions each one of which is taught by the prior art to be useful for the same purpose in order to form a third composition to be used for the same purpose, *In re Kerkhoven*, 205 USPQ 1069 (CCPA 1980).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate into the process for oxidizing the amylopectin-type starch of the Wikstrom WO patent the reaction condition of the temperature and pH for the alkaline and sodium hypochlorite treatments of the Whitaker et al and Just et al patents in view of the recognition in the art, as evidenced by the Whitaker et al and Just et al patents, that such reaction conditions are effective for carrying out the oxidation of starch materials.

5. Applicant's arguments filed October 1, 2002 have been fully considered but they are not persuasive. Applicants comment with regard to the differences admitted by the Examiner is noted. In view of Applicants amendment to the claims, the indicated differences between the claimed invention and the Wikstrom WO patent have been changed in the current rejection of the claims.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, as indicated in

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the current rejection, a person of ordinary skill in this art would combine the teachings of the Wikstrom WO patent with the teachings of the Whitaker et al GB patent and Just et al patent since each reference disclose a common utility for an oxidized starch product. The Wikstrom and Just et al references disclose starch products that can be used in surface-sizing products and the Whitaker et al GB patent discloses starch products that can be used in cementitious compositions, which embraces the starch product as a surface-sizing agent. It would have been prima facie obvious to one of ordinary skill in the art to combine two compositions each one of which is taught by the prior art to be useful for the same purpose in order to form a third composition to be used for the same purpose, *In re Kerkhoven*, 205 USPQ 1069 (CCPA 1980).

6. Claims 21- 27 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wikstrom (WO 97/04167).

Applicants claimed oxidized starch products in the form of product-by-process claims. The products claimed by Applicants also include a binder in paper coatings or surface sizing and a coating of glass fibers in warp yarn sizing, all consisting essentially of an oxidized starch. Applicants also claim an oxidized starch product, which properties are defined by the formula  $(I.V.*ZGT)-1 \geq X$  and  $BU_{top} / BU_{90-20} \leq Y$ . The Office generally considers product-by-process claims as product claims.

The Wikstrom WO patent discloses an oxidized amylopectin starch that has been treated with sodium hydroxide and sodium hypochlorite (see Example 2 on page 4 of the Wikstrom WO patent), which embraces the oxidized starch of Claim 21 since the sodium hydroxide and sodium hypochlorite treatment indicated in the Wikstrom patent embraces the alkaline and alkali metal hypochlorite treatment disclosed for the oxidized starch of instant Claim 21. See the sentence at lines 13-15 on page 2 of the Wikstrom WO patent, which discloses that the amylopectin content of amylopectin-type starch disclosed in the Wikstrom WO patent is in excess of 95%, preferable in excess of 98%. The Wikstrom WO patent further discloses the amylopectin-type starch as being use to produce a finishing agent, which further allows the manufacturing of surface-sizing and coating products (see page 2, lines 29-33). The surface-sizing and coating product of

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the Wikstrom WO patent embraces the coating product set forth in instant Claims 27 and 30.

The instant claims (see Claims 22-26) differ from the Wikstrom WO patent by disclosing the formula  $(I.V.*ZGT)-1 \geq X$  and  $BU \text{ top} / BU \text{ 90-20} \leq Y$ . However, since the Wikstrom WO patent shows that an oxidized starch comprising 95 wt. % of amylopectin is well known in the art the properties described by the claimed chemical formulas are inherent features of the oxidized starch of the prior art. Products of identical chemical composition cannot have mutually exclusive properties. A chemical composition and its properties are inseparable. Therefore, if the prior art teaches the identical chemical structure, the properties applicant discloses and/or claims are necessarily present. *In re Spada* 15 USPQ 2d 1655, 1658 (Fed. Cir. 1990). See MPEP 2112.01.

The instant claims (see Claims 21, 27 and 30) also differ from the Wikstrom WO patent by claiming process steps. However, process limitations cannot impart patentability to a product that is not patentably distinguished over the prior art. *In re Thorpe et al.* (CAFC 1985), *supra*; *In re Dike* (CCPA 1968) 394 F2d 584, 157 USPQ 581; *Tri-Wall Containers, Inc. v. United States et al.* (Ct Cls 1969) 408 F2d 748, 161 USPQ 116; *In re Brown et al.* (CCPA 1972) 450 F2d 531, 173 USPQ 685; *Ex parte Edwards et al.* (BPAI 1986) 231 USPQ 981.

While Applicants claims are directed to a product limited by the process employed in its production there is no reason found for concluding that the product claimed could be distinguished from the product of the Wikstrom WO patent merely because the claimed product was produced under the specific conditions recited, which conditions fall within the purview of the disclosure of the Wikstrom WO patent. Accordingly, it would have been obvious to one of ordinary skill in the art at the time of applicant(s) invention to employ the amylopectin-potato starch having an amylopectin content of at least 95% of the Wikstrom WO patent in view of their closely related structures and the resulting expectation of similar finishing properties.

7. Applicant's arguments with respect to Claims 21-27 and 30 have been considered but are moot in view of the new ground(s) of rejection.

8. Claims 28, 29 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Huizenga EP patent (EP 0799837).

Applicants claimed oxidized starch products in the form of product-by-process claims. The products claimed by Applicants include an adhesive and food additive, all consisting essentially of an oxidized starch. The Office generally considers product-by-process claims as product claims.

The Huizenga EP patent discloses compositions that comprise an amylopectin-potato starch that may be used in different products that include food products and adhesives (see page 4, lines 21 and 22), which embraces the adhesive of instant Claim 28 and the food additive of instant Claim 31. See page 3, lines 1 and 2 of the Huizenga EP patent wherein the amylopectin-potato starch is disclosed as having an amylopectin content of at least 95 wt.%, based on the dry substance. The amylopectin-potato starch of the Huizenga EP patent is disclosed as being effective as a dispersing agent with emulsifying agents, which embraces the protective colloid for stabilizing emulsions claimed in instant Claim 29. The instant claims differ from the Huizenga EP patent by claiming process steps.

However, process limitations cannot impart patentability to a product that is not patentably distinguished over the prior art. *In re Thorpe et al.* (CAFC 1985), *supra*; *In re Dike* (CCPA 1968) 394 F2d 584, 157 USPQ 581; *Tri-Wall Containers, Inc. v. United States et al.* (Ct Cls 1969) 408 F2d 748, 161 USPQ 116; *In re Brown et al.* (CCPA 1972) 450 F2d 531, 173 USPQ 685 ; *Ex parte Edwards et al.* (BPAI 1986) 231 USPQ 981.

While Applicants claims are directed to a product limited by the process employed in its production there is no reason found for concluding that the product claimed could be distinguished from the product of the Huizenga EP patent merely because the claimed product was produced under the specific conditions recited, which conditions fall within the purview of the disclosure of the Huizenga EP patent. Accordingly, it would have been obvious to one of ordinary skill in the art at the time of applicant(s) invention to employ the amylopectin-potato starch having an amylopectin content of at least 95% of the Huizenga EP patent in view of their closely related structures and the resulting expectation of similar dispersive properties.

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9. Applicant's arguments with respect to Claims 28, 29 and 31 have been considered but are moot in view of the new ground(s) of rejection.

### ***Summary***

10. All the pending claims are rejected.

### ***Conclusion***

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

### ***Examiner's Telephone Number, Fax Number, and Other Information***

12. For 24 hour access to patent application information 7 days per week, or for filing applications, please visit our website at [www.uspto.gov](http://www.uspto.gov) and click on the button "Patent Electronic Business Center" for more information.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Everett White whose telephone number is (703) 308-4621. The examiner can normally be reached on Monday-Friday from 9:30 AM to 6:00 PM.

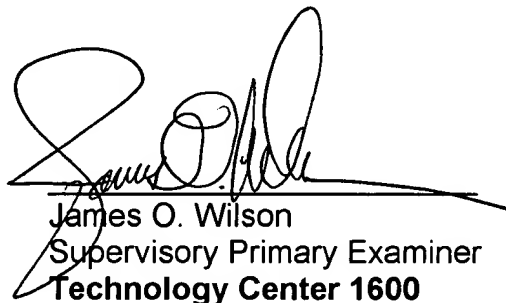
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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James O. Wilson, can be reach on (703) 308-4624. The fax phone number for this Group is (703) 308-4556.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-1235.

*E. White*

E.White

  
James O. Wilson  
Supervisory Primary Examiner  
**Technology Center 1600**